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EXAMINER	
PERILLA, JASON M	
ART UNIT	**PAPER NUMBER**
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/580,932	CHENES, PIERRE H.	
	Examiner	Art Unit	
	Jason M Perilla	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 May 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *32* is/are allowed.

6)☒ Claim(s) *1-31 and 33-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 May 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

1. Claims 1-41 are pending in the application.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 2, 5, 11, 14, 21, 29, 31, 33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not describe a code generating event as included in each claim. Further, a code generating event is not commonly known in the art and can not be enabled without a description.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 2, 5, 9, 19-21, 23, 29-31, 33-38, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori (4754268) in view of Gilley (5781458).

Regarding claim 1, Mori in view of Gilley disclose a wireless communication system comprising a transmitter circuit for transmitting information and generating a random identifier code having randomness that is derived from the tolerances associated with components included in the transmitter circuit wherein the random identifier code is included in the transmitted information. Mori discloses a wireless communication system (fig. 4, ref. "R", 9, 12) comprising a transmitter circuit (fig. 1). The circuit contains an identifier code that is included in the transmitted information (fig. 1, ref. "programmable counter"; col. 4, line 6) for the purpose of identifying the transmission among a plurality of similar transmissions (col. 4, line 6). Mori does not disclose an identifier code having randomness that is derived from tolerances associated with components included in the transmitter circuit. However, Gilley does disclose a circuit that generates a random identifier code derived from the randomness in the tolerances of the circuit (fig. 1; col. 3, line 37). The tolerances of the RC circuit connected to the microcontroller shown in figure 1 inherently contribute to the randomness of the identifier code generated by the circuit. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize the random identifier code circuit of Gilley in the transmission circuit of Mori because it provides a very robust random identifier code for distinguishing transmissions between a plurality of similar transmissions.

Regarding claim 2, Mori in view of Gilley disclose the limitations of claim 1 as applied above. Further, Gilley discloses a circuit including a microcontroller having a

first I/O port wherein response to an event at the port, a process running in the microcontroller unit generates the random identifier code (fig. 3; col. 4, line 37).

Regarding claim 5, Mori in view of Gilley disclose the limitations of claim 2 as applied above. Further, Gilley discloses a microcontroller having an N-bit timer that is read in response to an event being detected at the first I/O port (fig. 3; col. 4, line 37).

Regarding claim 9, Mori in view of Gilley disclose the limitations in claim 1 as applied above. Further, Mori discloses that the transmitter circuit is included in a wireless mouse (fig. 4).

Regarding claims 19 and 40, Mori in view of Gilley disclose a method for distinguishing transmissions of a wireless transmitter (or wireless transmitter means) comprising generating a random identifier code having randomness that is derived from tolerances associated with components included in the wireless transmitter and embedding the random identifier code in the transmissions of the wireless transmitter. Mori discloses a transmitter method by a circuit (fig. 1). The circuit comprises the method of generating an identifier code (fig. 1, ref. "programmable counter"; col. 4, line 6) that is embedded in the transmitted information for the purpose of identifying the transmission among a plurality of similar transmissions (col. 4, line 6). Mori does not disclose the method comprising an identifier code having randomness that is derived from tolerances associated with components included in the transmitter circuit. However, Gilley does disclose a method comprising the use of a circuit that generates a random identifier code derived from the randomness in the tolerances of the circuit (fig. 1; col. 3, line 37). The tolerances of the RC circuit connected to the microcontroller

shown in figure 1 inherently contribute to the randomness of the identifier code generated by the circuit. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize the random identifier code generation circuit of Gilley in the transmission method of Mori because it provides a very robust identifier code for distinguishing transmissions between a plurality of similar transmissions.

Regarding claim 20, Mori in view of Gilley disclosed the limitations of claim 19 as applied above. Further, the microcontroller disclosed by Gilley generates a random identifier code using an algorithm (fig. 3). It is inherent that the microcontroller requires memory to perform such an algorithm that is shown in figure 3. The method that the microcontroller uses to perform the algorithm requires that the random identifier code is stored in a storage area (i.e. RAM) within the microcontroller, and hence, within the wireless transmitter.

Regarding claim 21, Mori in view of Gilley disclosed the limitations of claim 19 as applied above. Further, Gilley discloses a microcontroller unit having an I/O port (fig. 1), and that the generating step is responsive to an event being detected at an I/O port (fig. 3; col. 4, line 37).

Regarding claim 23, Mori in view of Gilley disclose the limitations in claim 19 as applied above. Further, Mori discloses that the transmitter circuit is included in a wireless mouse (fig. 4).

Regarding claim 29, Mori in view of Gilley disclose a computer readable medium having instructions stored thereon which, when executed by a processor included in a

wireless communication system cause the processor to perform the steps of receiving data produced by the wireless communications system responsive to an event wherein the received data has randomness derived from tolerances associated with components included in the wireless communication system. Further, Mori in view of Gilley disclose generating a random identifier code based on the received data, and storing the random identifier code in a storage area included in the wireless communication system. Mori discloses a wireless communication system (fig. 4, ref. "R", 9, 12) comprising a transmitter circuit (fig. 1). The circuit contains an identifier code that is included in the transmitted information (fig. 1, ref. "programmable counter"; col. 4, line 6) for the purpose of identifying the transmission among a plurality of similar transmissions (col. 4, line 6). Mori does not disclose computer readable media having stored instructions which are executed in response to an event causing an identifier code to be generated based on received data having randomness that is derived from tolerances associated with components included in the wireless communication circuit. However, Gilley does disclose computer readable media having stored instructions that are executed in response to an event to generate a random identifier code using data gathered having randomness derived in the tolerances of the circuit (fig. 1; col. 3, line 37). The tolerances of the RC circuit connected to the microcontroller shown in figure 1 inherently contribute to the randomness of the identifier code generated by the circuit. Further, the microcontroller disclosed by Gilley generates a random identifier code using an algorithm executed from instructions stored on computer readable media (fig. 3). It is inherent that the microcontroller requires memory (computer readable media) to perform

such an algorithm that is shown in figure 3. The method that the microcontroller uses to perform the algorithm requires that the random identifier code is stored in a storage area (i.e. RAM) within the microcontroller. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize the random identifier code circuit of Gilley in the transmission circuit of Mori because it provides a very robust random identifier code for distinguishing transmissions of the wireless communication system between a plurality of similar transmissions.

Regarding claim 30, Mori in view of Gilley disclose the limitations of claim 29 as applied above. Mori further discloses that the random identifier code is embedded in the transmission of the system for the purpose of identifying the transmission among a plurality of similar transmissions (col. 4, line 6).

Regarding claim 31, Mori in view of Gilley disclose the limitations of claim 29 as applied above. Further, Gilley discloses a circuit including a microcontroller having a first I/O port used to detect an event (fig. 3; col. 4, line 37).

Regarding claim 33, Mori in view of Gilley disclose a wireless communication system comprising a transmitter circuit for transmitting information and generating a random identifier code having randomness that is derived from tolerances associated with components included in the transmitter circuit wherein the random identifier code is included in the transmitted information, and a receiver circuit responsive to the information having the random identifier code for reporting that information to a receiver host. Mori discloses a wireless communication system (fig. 4, ref. "R", 9, 12) comprising a transmitter circuit (fig. 1) and a receiving circuit (fig. 2). The circuit contains an

identifier code that is included in the transmitted information (fig. 1, ref. "programmable counter"; col. 4, line 6) for the purpose of identifying the transmission among a plurality of similar transmissions (col. 4, line 6). Mori discloses that the receiver is responsive to the transmission having the identifier code (col. 4, line 45) and that the receiver reports the received information to a receiver host (fig. 2, ref. 64; col. 4, line 32). Mori does not disclose an identifier code having randomness that is derived from tolerances associated with components included in the transmitter circuit. However, Gilley does disclose a circuit that generates a random identifier code derived from the randomness in the tolerances of the circuit (fig. 1; col. 3, line 37). The tolerances of the RC circuit connected to the microcontroller shown in figure 1 inherently contribute to the randomness of the identifier code generated by the circuit. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize the random identifier code circuit of Gilley in the transmitter circuit of Mori because it provides a very robust random identifier code for distinguishing transmissions between a plurality of similar transmissions.

Regarding claim 34, Mori in view of Gilley disclose an electronic communication system comprising a first circuit for communicating information and generating a random identifier code having randomness that is derived from tolerances associated with components included in the first circuit wherein the random identifier code is included in the communicated information, and a second circuit for receiving the information having the random identifier code. Mori discloses a wireless communication system (fig. 4, ref. "R", 9, 12) comprising a first circuit (fig. 1) and a second circuit

operatively coupled by a wireless means (fig. 2). The first circuit contains an identifier code that is included in the communicated information (fig. 1, ref. "programmable counter"; col. 4, line 6). Mori discloses that the second circuit is responsive to the communication of the first circuit having the identifier code (col. 4, line 45). Mori does not disclose an identifier code having randomness that is derived from tolerances associated with components included in the transmitter circuit. However, Gilley does disclose a circuit that generates a random identifier code derived from the randomness in the tolerances of the circuit (fig. 1; col. 3, line 37). The tolerances of the RC circuit connected to the microcontroller shown in figure 1 inherently contribute to the randomness of the identifier code generated by the circuit. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize the random identifier code circuit of Gilley in the first circuit of Mori because it provides a very robust random identifier code for distinguishing the communication of the first circuit between a plurality of similar communications.

Regarding claim 35, Mori in view of Gilley disclose the limitations of claim 34 as applied above. Further, Mori discloses that the first circuit and the second circuit each have a storage area for storing the random identifier code (col. 4, line 45). Because the random identifier code is embedded in the communication information, it is inherent that the code is stored in both the first circuit and the second circuit so that the two circuits are able to be communicatively coupled.

Regarding claim 36, Mori in view of Gilley disclose a method for associating a transmitter with a receiver wherein the two are part of a wireless

communication system comprising generating a random identifier code having randomness that is derived from tolerances associated with components included in the wireless communication system and assigning the random identifier code to the transmitter and the receiver pair. Mori discloses a wireless communication system (fig. 4, ref. "R", 9, 12) comprising a transmitter circuit (fig. 1) and a receiving circuit (fig. 2). The transmission circuit contains an identifier code that is included in the transmitted information (fig. 1, ref. "programmable counter"; col. 4, line 6) for the method of associating a transmission among a plurality of similar transmissions (col. 4, line 6). The receiver contains an identifier code (fig. 2, ref. "programmable counter"; col. 4, line 45). Mori discloses that the receiver is associated to the transmission having the identifier code (col. 4, line 45) and therefore the two are associated together by the assignment of the identifier code. Mori does not disclose an identifier code having randomness that is derived from tolerances associated with components included in the transmitter circuit. However, Gilley does disclose a circuit that generates a random identifier code derived from the randomness in the tolerances of the circuit (fig. 1; col. 3, line 37). The tolerances of the RC circuit connected to the microcontroller shown in figure 1 inherently contribute to the randomness of the identifier code generated by the circuit. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize the random identifier code circuit of Gilley in the transmitter circuit of Mori because it provides a very robust random identifier code for distinguishing communications between transmitter-receiver pairs.

Regarding claim 37, Mori in view of Gilley disclose the limitations of claim 36 as applied above. Further, Mori discloses that the transmitter circuit and the receiver circuit each have a storage area for storing the random identifier code (col. 4, line 45). Because the random identifier code is embedded in the communication information, it is inherent that the code is stored in both the first circuit and the second circuit so that the two circuits are able to communicatively coupled.

Regarding claim 38, Mori in view of Gilley disclose a wireless communication transmitter system comprising a transmitter circuit means for transmitting information and generating a random identifier code having randomness that is derived from tolerances associated with components included in the transmitter circuit means wherein the random identifier code is included in the transmitted information. Mori discloses a wireless communication system (fig. 4, ref. "R", 9, 12) comprising a transmitter circuit (fig. 1). The circuit generates an identifier code that is included in the transmitted information (fig. 1, ref. "programmable counter"; col. 4, line 6) for the purpose of identifying the transmission among a plurality of similar transmissions (col. 4, line 6). Mori does not disclose an identifier code having randomness that is derived from tolerances associated with components included in the transmitter circuit. However, Gilley does disclose a circuit that generates a random identifier code derived from the randomness in the tolerances of the circuit (fig. 1; col. 3, line 37). The tolerances of the RC circuit connected to the microcontroller shown in figure 1 inherently contribute to the randomness of the identifier code generated by the circuit. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the

invention was made to utilize the random identifier code circuit of Gilley in the transmission circuit of Mori because it provides a very robust random identifier code for distinguishing transmissions between a plurality of similar transmissions.

5. Claims 3-4, 7-8, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori in view of Gilley, and in further view of Grider et al (5515540).

Regarding claims 3 and 4, Mori in view of Gilley disclose the limitations of claim 2 as applied above. Although Gilley does disclose a microcontroller (DSP), a microcontroller having a ROM for storing a set of instructions for carrying out the process or a RAM for storing the random identifier code is not explicitly disclosed. The inclusion of a ROM for storing program instructions and a RAM for working with program variables in a microcontroller is commonly known in the art. Further, Grider et al does disclose a microcontroller having both a ROM (fig. 1, ref. "embedded loader ROM") and a RAM (fig. 1, ref. "data registers (128 bytes)"). Therefore it would have been obvious for one of ordinary skill in the art at the time which the invention was made to use a microcontroller with a built in ROM and/or RAM as described by Grider et al for the transmission circuit of Mori in view of Gilley because such a microcontroller is common in the art and it leads to a simplicity of circuit design.

Regarding claim 7, Mori in view of Gilley disclose the limitations of claim 5 as applied above. Gilley does further disclose the N-bit timer being applied to a random code generator algorithm (fig. 3; col. 4, line 37). Gilley does not explicitly disclose that the algorithm is stored in the ROM of the microcontroller. It is obvious to one skilled in the art that the instructions used in a microcontroller (to perform an algorithm) are

stored in ROM, and that most microcontrollers contain ROM for such a purpose. Additionally, Grider et al does disclose a microcontroller with internal ROM for the storage of instructions for a microcontroller (fig. 1, ref. "embedded loader ROM"). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a microcontroller with built in ROM as disclosed by Grider et al in the transmitter circuit of Mori in view of Gilley because such microcontrollers are very common in the art and it leads to simplicity of design. It would have been further obvious to one having ordinary skill in the art at the time the invention was made to store the algorithm for generating the random identifier code using the N-bit timer in the ROM of the microcontroller because the ROM is intended to be used for storing microcontroller instructions.

Regarding claim 8, Mori in view of Gilley disclose the limitations as described in claim 1 above. Gilley discloses the use of a microcontroller (DSP) for the generation of the random identifier code. It is inherent that a microcontroller has a type of storage area (RAM) for storing information such as a random identifier code because the use of such a storing area is required for the operation of the microcontroller.

Regarding claim 22, Mori in view of Gilley disclosed the limitations of claim 21 as applied above. Gilley discloses the use of a microcontroller generating a random identifier code pursuant to an algorithm carried out pursuant to a set of instructions (fig. 3; col. 4, line 37). It is commonly known in the art that microcontrollers contain ROM memory for the storage of the instructions to be carried out. Gilley discloses a microcontroller and a set of instructions used to generate the random identifier code, but

does not explicitly disclose the microcontroller having ROM for the storage of the instructions. However, Grider et al does disclose a microcontroller having ROM (fig. 1, ref. "embedded loader ROM"). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a microcontroller having ROM such as the one disclosed by Grider et al with for the microcontroller used by Mori in view of Gilley because a microcontroller having ROM for storing program instructions is very common and makes for simplicity of circuit design.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mori in view of Gilley, and in further view of Church (3659853).

Regarding claim 6, Mori in view of Gilley disclose the limitations of claim 5 as applied above. Although Gilley does disclose that the output value of the N-bit timer is read in response to the event being generated at the first I/O port as applied to claim 5, the value of the N-bit timer is not disclosed to be the random identifier code. However, Church does disclose a random identifier counter (col. 2, line 17) (inherently the same as a timer) of which the output of the counter is the random identifier code (fig. 2; col. 2, line 31). Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to use the output of the N-bit timer as the random identifier as shown by Church because it is the easiest and most obvious method to obtain a random identifier code from the N-bit timer.

7. Claims 10-11, 14, 17, 24-26, 28, 39, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leifer et al (6280327) in view of Gilley.

Regarding claim 10, Leifer et al in view of Gilley disclose a wireless communication system comprising a transceiver circuit for transmitting and receiving information as well as generating a random identifier code having randomness that is derived from the tolerances associated with components included in the transmitter circuit wherein the random identifier code is included in the transmitted information. Leifer et al discloses a wireless communication system (fig. 5, 8) comprising a transceiver (col. 7, line 5) with a transmitter (fig. 5) and a receiver (fig. 8). The transceiver also generates an identifier code by the means of switches (col. 6, line 21) that is included in the transmitted information by encoding (col. 6, line 15) for the purpose of identifying the transmission among a plurality of similar transmissions (col. 5, line 67). Leifer et al does not disclose an identifier code having randomness that is derived from tolerances associated with components included in the transmitter circuit. However, Gilley does disclose a circuit that generates a random identifier code derived from the randomness in the tolerances of the circuit (fig. 1; col. 3, line 37). The tolerances of the RC circuit connected to the microcontroller shown in figure 1 inherently contribute to the randomness of the identifier code generated by the circuit. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize the random identifier code circuit of Gilley in the transceiver circuit of Leifer et al because it provides a very robust identifier code for distinguishing transmissions between a plurality of similar transmissions without the use of select switches.

Regarding claim 11, Leifer et al in view of Gilley disclose the limitations of claim 10 as applied above. Further, Gilley discloses a circuit including a microcontroller having a first I/O port wherein response to an event at the port, a process running in the microcontroller unit generates the random identifier code (fig. 3; col. 4, line 37).

Regarding claim 14, Leifer et al in view of Gilley disclose the limitations of claim 11 as applied above. Further, Gilley discloses a microcontroller having an N-bit timer that is read in response to an event being detected at the first I/O port (fig. 3; col. 4, line 37).

Regarding claim 17, Leifer et al in view of Gilley disclose the limitations in claim 10 as applied above. Further, Leifer et al discloses that the transceiver circuit is included in a wireless joystick (fig. 3).

Regarding claims 24 and 41, Leifer et al in view of Gilley disclose a method for distinguishing transmissions of a transceiver (or a transceiver means) comprising generating a random identifier code having randomness that is derived from tolerances associated with the components included in the transceiver and embedding the random identifier code in the transmissions of the transceiver. Leifer et al discloses the method of distinguishing transmission of a transceiver in a wireless communication system (fig. 5, 8) comprising a transceiver (col. 7, line 5) with a transmitter (fig. 5) and a receiver (fig. 8). The transceiver also generates an identifier code by the means of switches (col. 6, line 21) that is embedded in the transmitted information by encoding (col. 6, line 15) for the purpose of identifying the transmission among a plurality of similar transmissions (col. 5, line 67). Leifer et al does not disclose an identifier code having randomness that

is derived from tolerances associated with components included in the transmitter circuit. However, Gilley does disclose a circuit that generates a random identifier code derived from the randomness in the tolerances of the circuit (fig. 1; col. 3, line 37). The tolerances of the RC circuit connected to the microcontroller shown in figure 1 inherently contribute to the randomness of the identifier code generated by the circuit. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize the random identifier code circuit of Gilley in the transceiver circuit of Leifer et al for a method to distinguish between a plurality of transmission because it provides a very robust identifier code for distinguishing transmissions between a plurality of similar transmissions without the use of select switches.

Regarding claim 25, Leifer et al in view of Gilley disclosed the limitations of claim 24 as applied above. Further, the microcontroller disclosed by Gilley generates a random identifier code using an algorithm (fig. 3). It is inherent that the microcontroller requires memory to perform such an algorithm that is shown in figure 3. The method that the microcontroller uses to perform the algorithm requires that the random identifier code is stored in a storage area (i.e. RAM) within the microcontroller, and hence, within the wireless transmitter.

Regarding claim 26, Leifer et al in view of Gilley disclosed the limitations of claim 24 as applied above. Further, Gilley discloses a microcontroller unit having an I/O port (fig. 1), and that the generating step is responsive to an event being detected at an I/O port (fig. 3; col. 4, line 37).

Regarding claim 28, Leifer et al in view of Gilley disclose the limitations in claim 24 as applied above. Further, Leifer et al discloses that the transceiver circuit is included in a wireless joystick (fig. 3).

Regarding claim 39, Leifer et al in view of Gilley disclose a wireless communication system comprising a transceiver circuit means for transmitting and receiving information as well as generating a random identifier code having randomness that is derived from the tolerances associated with components included in the transmitter circuit wherein the random identifier code is included in the transmitted information. Leifer et al discloses a wireless communication system (fig. 5, 8) comprising a transceiver (col. 7, line 5) with a transmitter (fig. 5) and a receiver (fig. 8). The transceiver also generates an identifier code by the means of switches (col. 6, line 21) that is included in the transmitted information by encoding (col. 6, line 15) for the purpose of identifying the transmission among a plurality of similar transmissions (col. 5, line 67). Leifer et al does not disclose an identifier code having randomness that is derived from tolerances associated with components included in the transmitter circuit. However, Gilley does disclose a circuit that generates a random identifier code derived from the randomness in the tolerances of the circuit (fig. 1; col. 3, line 37). The tolerances of the RC circuit connected to the microcontroller shown in figure 1 inherently contribute to the randomness of the identifier code generated by the circuit. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize the random identifier code circuit of Gilley in the transceiver circuit of Leifer et al because it provides a very robust identifier code for

distinguishing transmissions between a plurality of similar transmissions without the use of select switches.

8. Claims 12-13, 16-17, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leifer et al in view of Gilley, and in further view of Grider et al.

Regarding claims 12 and 13, Leifer et al in view of Gilley disclose the limitations of claim 2 as applied above. Although Gilley does disclose a microcontroller (DSP), a microcontroller having a ROM for storing a set of instructions for carrying out the process or a RAM for storing the random identifier code is not explicitly disclosed. The inclusion of a ROM for storing program instructions and a RAM for working with program variables in a microcontroller is commonly known in the art. Further, Grider et al does disclose a microcontroller having both a ROM (fig. 1, ref. "embedded loader ROM") and a RAM (fig. 1, ref. "data registers (128 bytes)"). Therefore it would have been obvious for one of ordinary skill in the art at the time which the invention was made to use a microcontroller with a built in ROM and/or RAM as described by Grider et al for the transceiver circuit of Leifer et al in view of Gilley because such a microcontroller is common in the art and it leads to a simplicity of circuit design.

Regarding claim 16, Leifer et al in view of Gilley disclose the limitations of claim 5 as applied above. Gilley does further disclose the N-bit timer being applied to a random code generator algorithm (fig. 3; col. 4, line 37). Gilley does not explicitly disclose that the algorithm is stored in the ROM of the microcontroller. It is obvious to one skilled in the art that the instructions used in a microcontroller (to perform an algorithm) are stored in ROM, and that most microcontrollers contain ROM for such a purpose.

Additionally, Grider et al does disclose a microcontroller with internal ROM for the storage of instructions for a microcontroller (fig. 1, ref. "embedded loader ROM"). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a microcontroller with built in ROM as disclosed by Grider et al in the transceiver circuit of Leifer et al in view of Gilley because such microcontrollers are very common in the art and it leads to simplicity of design. It would have been further obvious to one having ordinary skill in the art at the time the invention was made to store the algorithm for generating the random identifier code using the N-bit timer in the ROM of the microcontroller because the ROM is intended to be used for storing microcontroller instructions.

Regarding claim 17, Leifer et al in view of Gilley disclose the limitations as described in claim 1 above. Gilley discloses the use of a microcontroller (DSP) for the generation of the random identifier code. It is inherent that a microcontroller has a type of storage area (RAM) for storing information such as a random identifier code because the use of such a storing area is required for the operation of the microcontroller.

Regarding claim 27, Leifer et al in view of Gilley disclosed the limitations of claim 26 as applied above. Gilley discloses the use of a microcontroller generating a random identifier code pursuant to an algorithm carried out pursuant to a set of instructions (fig. 3; col. 4, line 37). It is commonly known in the art that microcontrollers contain ROM memory for the storage of the instructions to be carried out. Gilley discloses a microcontroller and a set of instructions used to generate the random identifier code, but does not explicitly disclose the microcontroller having ROM for the storage of the

instructions. However, Grider et al does disclose a microcontroller having ROM (fig. 1, ref. "embedded loader ROM"). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a microcontroller having ROM such as the one disclosed by Grider et al with for the microcontroller used by Mori in view of Gilley because a microcontroller having ROM for storing program instructions is very common and makes for simplicity of circuit design.

9. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leifer et al in view of Gilley, in further view of Church (3659853).

Regarding claim 15, Leifer et al in view of Gilley disclose the limitations of claim 5 as applied above. Although Gilley does disclose that the output value of the N-bit timer is read in response to the event being generated at the first I/O port as applied to claim 5, the value of the N-bit timer is not disclosed to be the random identifier code. However, Church does disclose a random identifier counter (col. 2, line 17) (inherently the same as a timer) of which the output of the counter is the random identifier code (fig. 2; col. 2, line 31). Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to use the output of the N-bit timer as the random identifier as shown by Church because it is the easiest and most obvious method to obtain a random identifier code from the N-bit timer.

Allowable Subject Matter

10. Claim 32 is allowed in view of the prior art of record. The following is a statement of reasons for the indication of allowable subject matter:

A method of distinguishing transmissions of wireless communications by the means of using embedded codes to differentiate a particular transmission among a plurality of transmissions is well known in the art. Further, the method of creating these codes randomly is also well known in view of the cited prior art. However, the particular method using a microcontroller connected to an RC circuit by an I/O port that monitors the voltage of the RC circuit and utilizes a N-bit timer to generate the random codes in response to events that occur at the I/O port due to the RC circuit charging and discharging in the particular sequence as limited by claim 32 has not been found to be disclosed.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following prior art of record is cited to further show the state of the art with respect to distinguishable transmissions by embedded random identifier codes among wireless systems such as wireless mice, wireless joysticks, wireless keyboards, wireless trackballs, and wireless video cameras.

U.S. Pat. No. 4819818 to Simkus et al; Random number generator using counters.

U.S. Pat. No. 5873781 to Keane; Random number generator using a microcontroller.

U.S. Pat. No. 6076097 to London et al; Random number generator using counters.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M Perilla whose telephone number is (703) 305-0374. The examiner can normally be reached on M-F 8-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Chin can be reached on (703) 305-4714. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

Jason M Perilla
October 3, 2003

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